

Customer No.: 31561
Application No.: 10/605,357
Docket No.: 11535-US-PA

REMARKS

Present Status of the Application

Applicants appreciate that the Office Action has allowed claims 1-3.

However, the Office Actions rejected claims 4-7 under 35 U.S.C. 112, second paragraph. In addition, the Office Action rejected claim 8 under 35 U.S.C. 102(e) as being anticipated by Yeh (U.S. 6,709,879). The Office Action also rejected claims 8, 12, and 13 under 35 U.S.C. 102(e) as being anticipated by Jarvis (U. S. Patent 6,258,437). The Office Action also rejected claims 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Jarvis in view of Summerfelt et al. (U. S. 20030124791). The Office Action also rejected claim 11 under 35 U.S.C. 103(a) as being unpatentable over Yeh in view of Jarvis. The Office Action also rejected claims 14 under 35 U.S.C. 103(a) as being unpatentable over Yeh in view of Nakasuji et al. (U. S. 6,593,152). Applicants have amended claim 4-5 to overcome rejections under 35 U.S.C. 112. Applicants have also amended claims 8 to improve clarity. After entry of the foregoing amendments, claims 1-14 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Office Action Rejections

The Office Action rejected claim 8 under 35 U.S.C. 102(e) as being anticipated by Yeh. The Office Action also rejected claims 8, 12, and 13 under 35 U.S.C. 102(e) as being anticipated by Jarvis. The Office Action also rejected claims 9 and 10 under 35 U.S.C. 103(a) as being

Customer No.: 31561
Application No.: 10/605,357
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unpatentable over Jarvis in view of Summerfelt et al.. The Office Action also rejected claim 11 under 35 U.S.C. 103(a) as being unpatentable over Yeh in view of Jarvis. The Office Action also rejected claims 14 under 35 U.S.C. 103(a) as being unpatentable over Yeh in view of Nakasuji et al.. Applicants respectfully traverse the rejections for at least the reasons set forth below.

With respect to independent claim 8, similar to FIG. 1C, the defect 118 between the plug 108 and conductive layer 104 is to be detected. In order to detect the defect 118, the processes are recited in amended claim 8.

In re Yeh, as shown in Figs. 2B-2E, the defect 203a, and 204a are alone on the substrate (Fig. 2E), the processes are different from the present invention.

Specifically, in comparing Figs. 2c-2d with FIGs. 1B-1C of the present invention, Yeh has to use the anisotropic dry etching, using the photoresist 204a as the mask, to remove the ideal structure layer 202a/ 202b/ 202c but leave the defects under the photoresist mask 204a. Here, if the wet etching is used, the defect will be removed as well. This is different from the present invention. Then, in Yeh, the photoresist mask 204a is removed to have the structure in Fig. 2E, in which only the defect remains.

Therefore, Yeh has disclosed other method to have the structure of Fig. 2E for detection. This does not disclose the features of the present invention recited in independent claim 8.

In re Jarvis, Jarvis also disclose a method which does not disclose the claimed invention.

Customer No.: 31561
Application No.: 10/605,357
Docket No.: 11535-US-PA

In Figs. 8-9, the simulated substrate 114 has the polysilicon portion 116 and the silicon oxide portion 120. The simulated substrate 114 is formed on the contrast layer 112. In FIG. 8, the pattern layer 122 is selectively patterned (col. 8, lines 9-16). Since the materials of the polysilicon portion 116 and the silicon oxide portion 120 in the simulated substrate 114 is different, the fissures 128a, 128b is produced during the etching process (col. 8, lines 24-25). In Fig. 9, if the fissure 128b is too large, the contrast layer 112 will be exposed. In order to detect the fissure 128b, the selective wet etching process is performed (col. 8, lines 37-40). This selective etching will etch the contrast layer 112 only. If there is the fissure 128b, which is the defect, to expose the contrast layer 112, the selective etching process will etch the contrast layer 112 to have the void 132/134 (col. 8, lines 52-62). The void 132/134 is then detected.

Therefore, Jarvis failed to disclose the features recited in independent claim 8.

Yeh and Jarvis either alone or in combination failed to disclose the claimed invention.

The other prior art references of Summerfelt et al. and Nakasuji et al. also failed to supply the missing features in Yeh or Jarvis.

For at least the foregoing reasons, Applicant respectfully submits that independent claims 1 and 8 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 2-7 and 9-14 patently define over the prior art references as well.

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Docket No.: 11535-US-PA

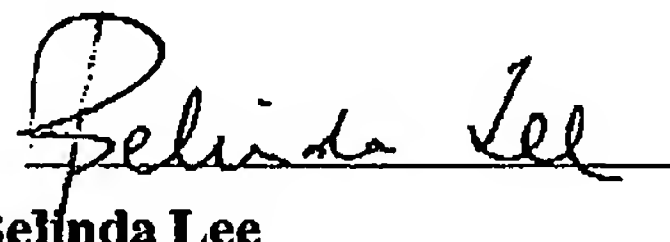
CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1-14 of the invention patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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